

Application Serial No. 10/570,739
Reply to Office Action of September 13, 2007

PATENT
Docket: CU-4717

REMARKS

In the Office Action, dated September 13, 2007, the Examiner states that Claim 2 is pending, and Claim 2 is rejected. By the present Amendment, Applicant amends the claims.

In the Office Action, Claim 2 is rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Particularly, the phrase "by curing" is rejected. The Applicant has amended Claim 2 to clarify that the curing is a subsequent step.

In the Office Action, Claim 2 is rejected under 35 U.S.C. §103(a) as being unpatentable over Handforth (US 4,402,262) in view of Schnee (US 3,936,547). The Applicant considers that this rejection is overcome by the amendment to Claim 2.

Claim 2 has been amended to clarify that the urethane resin is a hydrophobic urethane resin. This differs from the cited prior art as set out below.

(1) Handforth

An ink used for the bright ink layer of the present invention is disclosed as "by using such a water based ink" in paragraph [0020]. Paragraph [0009] further discloses: "That is, also for a decorative sheet using a decorative paper exhibiting brightness with a bright ink layer provided on the uppermost layer using a water based resin such as a casein resin and a acrylic resin for the resin of the ink of the bright ink layer, fixation of the bright pigment can be made firmer by the addition of the urethane resin emulsion so as to restrain the movement." As one can see from these disclosures, a condition of the ink is to be a water based ink comprising a water based resin. A urethane resin emulsion containing a hydrophobic urethane resin is further added to the ink to improve water resistance of the bright ink layer formed by using the water based ink comprising a water based resin.

In contrast, a condition of the aqueous ink composition disclosed in Handforth is to contain a resin which is generally insoluble in water (such as a vinyl chloride resin), i.e., a hydrophobic resin. Handforth also discloses to add a low-melting polymer B to the composition so that print performance of the ink composition containing the hydrophobic resin is improved. Accordingly, the printed material formed by using such ink composition is conditioned to contain a hydrophobic resin.

In terms of disclosing a bright ink layer formed by using a water based ink, the present invention and Handforth have a common aspect. However, they are technically different because a condition of the bright ink layer for the present

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invention is to comprise a hydrophilic resin, whereas that of Handforth is to comprise a hydrophobic resin.

Therefore, the bright ink layer used for the thermosetting resin decorative sheet claimed in the present invention is different from the printed material disclosed in Handforth. Further, since the respective conditions for the materials forming the bright ink layer are different, the bright ink layer of the present invention is not obvious from Handforth.

From the disclosure "if the combining amount of the urethane resin emulsion is too large, a trouble of generating of repellency after drying the impregnation resin (...This is because the bright ink layer after drying becomes more hydrophobic (than the circumference)), can be caused" in paragraph [0021], and the disclosed effect of paragraph [0027] that "resistance is provided to the fixation of the bright pigment with respect to the water based volatile component ... As a result, the alignment change at the time of drying can be restrained", it is clear that the urethane resin contained in the urethane resin emulsion is a hydrophobic one.

On the other hand, the ink composition of Handforth exhibits temporary adherence by setting a temperature of polymer B greater than the film-forming temperature and make the polymer B in a dissolved state (lines 26-32, column 2). It is also disclosed that polymer B is preferably a hydrophilic polymer such as urethane resin because the polymer has such function mentioned above (lines 3-15, column 4).

Accordingly, the urethane resin used for the thermosetting resin decorative sheet of the present invention and the urethane resin (polymer B) disclosed in Handforth are completely opposite in their properties.

Therefore, the bright ink layer of the present invention is different from the printed material of Handforth.

Moreover, because of such a difference in their structures, polymer B (hydrophilic urethane resin) of Handforth cannot attain an effect of fixing the bright pigment upon processes of such as impregnation and drying of a thermosetting resin (such as melamine resin) unlike the urethane resin contained in the thermosetting resin decorative sheet of the present invention.

From this aspect, the bright ink layer of the present invention is non-obviousness.

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The rejection comments that polymer B of Handforth exhibits adherence in an aqueous solution.

However, the urethane resin of the present invention shows water resistance in a situation such as the impregnation/drying of the thermosetting resin (such as melamine resin) where water and heat are added thereto, and as a result, fixation firm to the extent to restrain the movement of the bright pigment can be caused (paragraphs [0009] and [0027]).

In contrast, as mentioned, the ink composition of reference 1 exhibits adherence by using the aqueous solution of polymer B where polymer B is dissolved (greater than the film-forming temperature). Further, polymer B has fluidity to such a degree that it can function as an ink composition to print a material.

Accordingly, polymer B of Handforth does not exhibit adherence unlike the urethane resin of the present invention.

Therefore, the claimed present invention is not obvious in view of Handforth.

(2) Schnee

As mentioned, the bright ink layer of the present invention is not obvious from Handforth. Schnee is completely silent regarding the bright ink layer of the present invention.

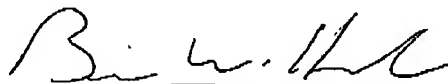
Therefore, the present invention is not obvious even if Handforth and Schnee are combined.

In light of the foregoing response, all the outstanding objections and rejections are considered overcome. Applicant respectfully submits that this application should now be in condition for allowance and respectfully requests favorable consideration.

Respectfully submitted,

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Date



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